

MAX-CSE Video Encoder

This unit (**FG2178-70**) allows audio and video signals to be delivered in real-time across any IP network for broadcast to a virtually limitless number of destinations – classrooms, boardrooms, training facilities, retail store branches, and other commercial settings.

The MAX-CSE provides real-time encoding of both analog audio or video content into both MPEG-2 and MPEG-4 formats for delivery across these same IP networks directly to either a MAX-CSD10 Decoder, Modero VG-Series Touch Panel, or computer (for immediate playback via a third-party streaming MPEG player).

The rear Ethernet port provides both 10/100 Ethernet connectivity and IEEE 802.3af Power-over-Ethernet (PoE) which enables DC power to be supplied to this device over the unused pairs of wires on the connected Ethernet cable. FIG. 1 shows the front and rear views.

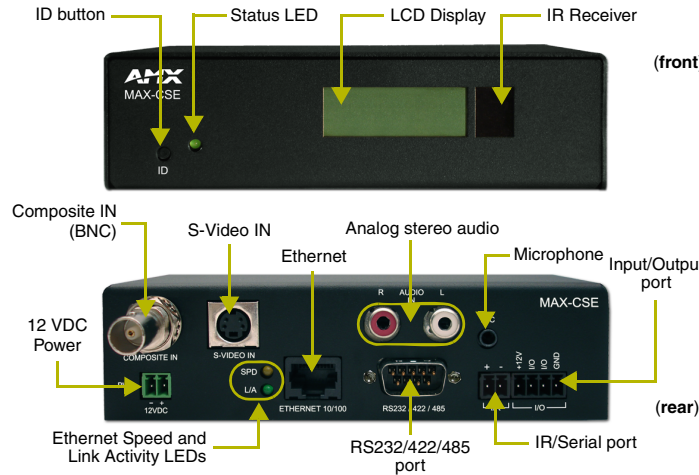


FIG. 1 MAX-CSE Video Encoder (front and rear views)

Note: This unit can be mounted onto either a flat surface or into an equipment rack by first removing the front screws and then attaching it to an AC-RK.

Product Specifications

MAX-CSE Specifications	
Dimensions (HWD):	1.58" x 5.54" x 6.95" (4.01 cm x 14.07 cm x 17.65 cm)
Power Requirements:	<ul style="list-style-type: none"> 500mA @ 12VDC (6W) Optional 12VDC power input overrides PoE when used. Power requirements are usage dependant. Power Over Ethernet (PoE) is available. This product is intended to be supplied by a Listed external power supply rated from 10 to 18 VDC, minimum 500 mA or equivalent.
Weight:	2.02 lbs (0.92 kg)
Enclosure:	Metal with black matte finish
Certifications:	FCC Part 15 Class B, CE, and UL listed
Video Inputs:	<ul style="list-style-type: none"> Composite Video (via BNC). S-Video (via female S-Video connector)
Audio Inputs:	<ul style="list-style-type: none"> Analog Stereo RCA connectors Microphone (1/8" stereo)
Supported Resolutions:	<ul style="list-style-type: none"> NTSC (480i) PAL (576i)
Supported Video Codecs:	<ul style="list-style-type: none"> MPEG-2 (2 Mbps - 6 Mbps) MPEG-4 (500Kbps - 3 Mbps) Adjustable Bit Rate: up to 6 Mbps
Supported Audio Codecs:	<ul style="list-style-type: none"> MPEG Audio Level 2 (MP2) MPEG Audio Level 3 (MP3)
Front Panel Components:	<ul style="list-style-type: none"> ID Pushbutton: Used to set the NetLinx ID (Device only) assignment, and reset the unit to factory defaults. Status LED: Green LED blinks to indicate both the system and communication status with the target Master. LCD Display: Provides system information such as the currently used IP Address. IR Receiver: Receives 38KHz AMX IR codes.
Rear Panel Connectors:	<ul style="list-style-type: none"> COMPOSITE IN: BNC connector (female) supports Composite Video Input (NTSC/PAL). 12VDC PWR: 2-pin 3.5mm mini-Phoenix (male) captive-wire connector from an optional 12 VDC power supply (overrides PoE). S-VIDEO IN: Mini-Din4 port for composite S-Video input.

MAX-CSE Specifications (Cont.)

Rear Panel Connectors (Cont.):	<ul style="list-style-type: none"> ETHERNET 10/100: RJ-45 port provides 10/100 Mbps network communication and PoE. LEDs show communication activity, connection status, speeds, and mode information (FIG. 2). AUDIO R/L: Two RCA connectors support line-level stereo input for analog stereo signals. RS-232/422/485: 9-pin (DB9) port supports RS-232/RS-422/RS-485 data output including: <ul style="list-style-type: none"> 300, 600, 1,200, 2,400, 4,800, 9,600, 19,200, 38,400, and 115,200 Baud rates 8 or 9 Data bits 1 or 2 Stop bits Even, Odd, Mark, Space, and None parity settings CTS and RTS handshaking XON/XOFF handshaking MIC: 1/8" mini-stereo input jack. IR/Serial: 2-pin 3.5mm mini-Phoenix (male) captive-wire connector provides IR/Serial control output by generating IR with the use of an IR emitter (while in IR mode). This port supports high-frequency carriers of up to 1.142 MHz and can also generate IR with no carrier frequency. I/O: Two digital 4-channel binary I/O ports for contact closure (accepts a 4-pin 3.5mm mini-Phoenix captive-wire connector). Each input is capable of voltage sensing. Input format is software selectable with interactive power sensing for IR ports.
Operating/Storage Environment:	<ul style="list-style-type: none"> Operating Temperature: 0° to 45° C (32° to 113° F) Storage Temperature: -30° to 70° C (-22° to 158° F) Operating Relative Humidity: 5% to 85% (non-condensing) Operation intended for indoor use only.
Included Accessories:	<ul style="list-style-type: none"> 2-pin 3.5 mm mini-Phoenix female PWR connector (41-5025) 4-pin 3.5 mm mini-Phoenix female I/O connector (41-5047) BNC to RCA Adapter (41-1074) CC-NIRC IR Emitter cable MAX-CSE Quick Start Guide
Other AMX Equipment:	<ul style="list-style-type: none"> AC-RK Accessory Rack Kit (FG515) CSB Cable Support Bracket (FG517) PMB Pole Mount Bracket (FG531) STS, Serial To Screw Terminal (FG959) Surface Mount Bracket Accessory (FG525)

Wiring Installation Procedures

The wiring parameters for the PWR, Serial, and Ethernet ports are described in detail within the following sections.

Wiring the power connector

Use an external power supply, described in the Specifications table, to provide power to the MAX-CSE through the rear 2-pin 3.5 mm mini-Phoenix connector (FIG. 1). The incoming PWR and GND wires from the power supply must be connected to the corresponding locations within the PWR connector.

Power-over-Ethernet connection

Caution: When using PoE, you must **FIRST** ground the unit to provide ESD protection. Install a single wire into the (-) GND side of the rear green 2-pin PWR connector, and then connect the terminal-end of this wire to a grounded source. It is recommended that the length of this wire NOT exceed 6 ft. (1.83 m).

Any 802.3af-compliant PoE switch (such as the NXA-ENET24 PoE) can automatically detect the 802.3af-compliant MAX device by its authenticated PoE signature and sense its required load before applying power to the PoE Ethernet port.

Note: PoE connections work with all existing Category (CAT) 3, 4, 5, 5e or 6 network cabling (including patch cables and patch-panels, outlets, and other connecting hardware) without requiring modification.

Reading the Ethernet LEDs

The MAX-CSE uses a standard CAT5 Ethernet cable to provide 10/100 network connectivity to the network (FIG. 2). LEDs indicate communication activity, connection status, speeds, and mode information.

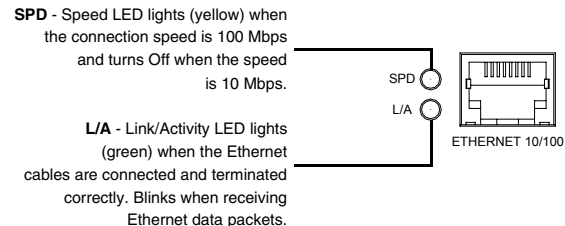


FIG. 2 Ethernet LEDs

Wiring the MAX-CSE for external video streaming

The rear connectors are used to input RGB video signals from an external video/audio source. FIG. 3 shows a sample wiring configuration streaming video from a MAX-CSE to either a MAX-CSD10 or VG-Series touch panel.

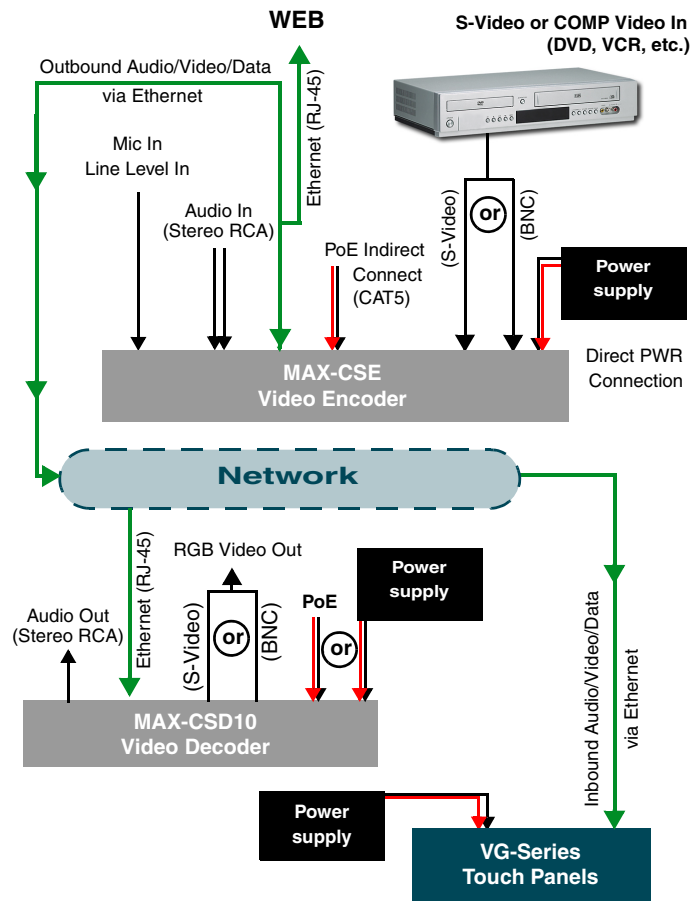


FIG. 3 Sample wiring configuration using a CSE streaming to different devices

Configuring the Communication Parameters

The MAX-CSE is configured to be used as a standalone unit running on a network capable of supporting the up to a 6Mbps data rate. It is recommended that you setup the unit locally prior to installing it within an AC-RK rack unit.

Obtaining the unit's initial DHCP Address

1. Connect an Ethernet cable to the unit's rear Ethernet connector.
2. Connect the 2-pin 3.5 mm mini-Phoenix PWR connector to the rear power connector and then apply power.
Note: The MAX-CSE uses the active Ethernet connection to communicate with the DHCP Server and obtain a valid DHCP Address.
- After the unit has successfully obtained an IP Address from the DHCP Server, it then displays this obtained DHCP Address across the front LCD (FIG. 4).
3. Write down the new DHCP Address displayed on the front panel LCD.

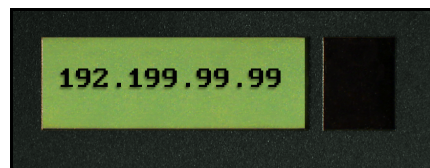


FIG. 4 Example of the initial DHCP display

Communicating with the unit via the browser-based UI

To communicate with the MAX-CSE it is necessary for the unit to first obtain a DHCP Address. Once that address is known, you can then use your web browser to access the browser-based User Interface (UI) pages and then configure the project, video, and IP connection parameters.

1. Launch your web browser.
2. Enter the IP Address of the target unit (ex: <http://192.199.99.99>) into the web browser's Address field.

3. Press the **Enter** key on your keyboard to initiate communication and launch the initial on-screen Enter Network Password security dialog.
- The MAX unit is shipped in a secured configuration which requires the user to enter a username and password into the on-screen security dialog before gaining access to the UI pages.
4. Enter the words **administrator** and **password** into their corresponding *User Name/Password* fields (*case-sensitive*). This profile can later be changed.
5. Click **OK** to enter the information and proceed to the first UI page.

Assigning a Static IP Address to the unit via the browser-based UI

Although the initial communication to the unit is done via a DHCP connection and since this is your stream source, it is recommended that for streaming and programming purposes, you assign a Static IP Address to the unit via the browser-based UI.

1. Access the IP Settings page by clicking the **IP Settings** link from within the Navigation frame (FIG. 5).

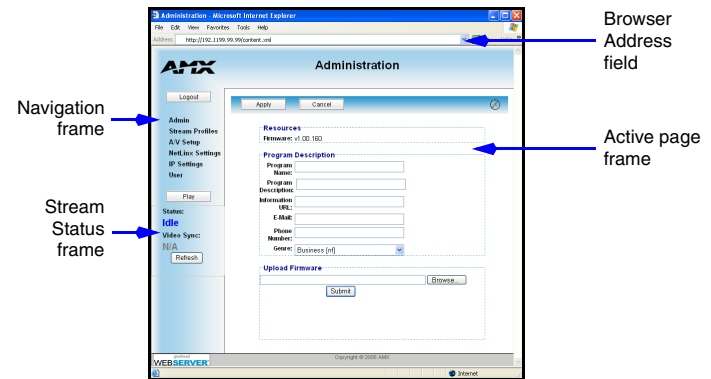


FIG. 5 Sample IP Settings page (DHCP)

- This page is used to assign the method of communication used by the target MAX-CSE unit.
 - Note that both the default IP Configuration setting is **DHCP** and the corresponding read-only fields display the MAX unit's communication parameters obtained from the DHCP Server during the initial setup.
2. Click on the **Static** radio box to begin entering the previously obtained Static IP Address information (*typically provided by your Network Administrator*).
 3. Enter the corresponding *Static IP Address*, *Subnet Mask*, *Gateway*, and *DNS* parameters into their corresponding fields on this page.
 4. Click the **Apply** button to refresh the screen and save your new communication parameters.
 5. Once the browser's progress bar indicates it has completed the temporary acceptance of the new parameters, click the **Reboot** button to restart the unit and incorporate these changes.
 6. Once the unit powers-up, the new Static IP Address is then displayed on the LCD after the appearance of AMX logo (*which can take several minutes*).
 7. Confirm the new communication parameters by launching your browser and entering the MAX's new Static IP Address into the browser's *Address* field.
 8. Press the **Enter** key on your keyboard to begin the communication process and launch the initial on-screen security dialog.
 9. Re-enter the words **administrator** and **password** into their corresponding *User Name/Password* fields.
 10. Click **OK** to enter the information and proceed to the Administration page which provides both a descriptive overview of the program stream and lists the currently used firmware.

Troubleshooting

- If the LCD does not display any information (such as the AMX logo or an IP Address) during the initial startup sequence, confirm that the unit is receiving power.
- If the L/A LED (FIG. 2) is not On or blinking, check your cables and connectors.
- If the web browser cannot establish a connection to the unit's browser-based UI, confirm you've entered the correct/new IP Address into the browser's *Address* field. If this does not correct the problem, cycle power to the unit, confirm the displayed IP Address information, and re-enter it into your browser.

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